BEFORE

THE PUBLIC SERVICE COMMISSION OF

SOUTH CAROLINA

DOCKET NO. 2019-227-E - ORDER NO. 2021-717

DECEMBER 21, 2021

IN RE:	South Carolina Energy Freedom Act (House Bill 3659) Proceeding Related to S.C. Code Ann. Section 58-37-40 and Integrated Resource Plans for Lockhart Power Company	))))))	ORDER ACCEPTING MODIFIED 2020 INTEGRATED RESOURCE PLAN OF LOCKHART POWER COMPANY

This matter comes before the Public Service Commission of South Carolina ("Commission") upon the Petition of Lockhart Power Company ("Lockhart" or "Company") for acceptance of its Modified 2020 Integrated Resource Plan pursuant to and in compliance with Commission Order No. 2021-246.

I. PROCEDURAL HISTORY

On April 13, 2021, the Commission issued Order No. 2021-246, which rejected Lockhart's Integrated Resource Plan ("IRP") and required Lockhart to make material modifications to its 2020 IRP, as well as future IRP Updates and future IRPs pursuant to S.C. Code Ann. Section 58-37-40 (C)(3) (Supp. 2020). When filing its Modified 2020 IRP on June 10, 2021, Lockhart asserted that the Modified IRP satisfied all ordered requirements and provisions of Order No. 2021-246.

On August 9, 2021, the Office of Regulatory Staff ("ORS") filed its report ("ORS Report") with the Commission pursuant to S.C. Code Ann. Section 58-37-40(C)(3) (Supp. 2020). Section 58-37-40(C)(3) requires, "[w]ithin sixty days of the electrical utility's

revised filing, the Office of Regulatory Staff shall review the electrical utility's revised plan and submit a report to the commission assessing the sufficiency of the revised filing."[1] ORS is statutorily required to review the electrical utility's revised IRP for sufficiency with the Commission's requirements.

The ORS Report found that "the Commission's requirements that must be addressed in the Company's Modified IRP"[2] were addressed by Lockhart. ORS determined that the Modified IRP sufficiently met all the requirements specified in Order No. 2021-246.

Table 1

Action Item	Summary of Requirements in Order No. 2021-246	LPC Modified IRP Section	ORS Sufficiency Report Section	Sufficient? (Y/N)
1	Include various reasonable load forecast scenarios	Attachments 2 & 3	Load and Energy Forecasting	Y
2	Include high-level language regarding evaluation of prospective new generation resources	5. Evaluating Prospective New Generation Resources (Pg. 3)	Demand-Side, Supply-Side, Storage, and Other Technologies	Y
3	Include a statement on Lockhart's fuel cost and environmental risk	8. Fuel Cost and Environmental Risk (Pg. 4)	Sensitivity to Fuel Price Forecasts and Environmental Regulations	Y
4	Revise Attachment 1 regarding renewal of Wellford Landfill Gas PPA	Attachment 1 (Note 6)	Existing System Resources and Resource Planning	Y

On August 10, 2021, Lockhart filed a letter asserting, that "Act No. 90 of 2021 was signed into law by the Governor on June 16, 2021. Act No. 90, among other things, amended the IRP process for Lockhart, providing that Lockhart's future IRPs will be submitted to the State Energy Office rather than the Commission, and will not be subject to the Commission proceeding process that applies to larger electrical utilities, including

[1] S.C. Code Ann. Section 58-37-40(C)(3) (Supp. 2021).
[2] ORS Report filed August 9, 2021 at p. 4 (https://dms.psc.sc.gov/Attachments/Matter/cd4e16a5-c26b-46b2-a094-84643e10ccf0).

the requirement to file annual updates to those IRPs. See S.C. Code Ann. §§58-37-40(A)-(D), as amended." Section 21 of Act No. 90 is effective on January 1, 2022. Lockhart asks that the Commission include language in "its Order approving the Lockhart's Modified 2020 IRP that Lockhart will not be required to file an annual update to the Modified IRP" with the Commission.[3]

Subsequent to Lockhart's August 10, 2021 letter, ORS wrote the Commission to notify the Commission "that ORS has no objection to the request of Lockhart Power Company ("Lockhart") to not file an annual update to its Modified 2020 IRP as stated in its letter of August 10, 2021 in the above referenced docket."[4]

II. STANDARD OF PROOF AND STATUTORY FRAMEWORK

The Commission is required to adjudicate the matters arising in contested cases using the preponderance of evidence standard.[5] The legal framework of the immediate proceeding subsequent to the rejection or modification of an Integrated Resource Plan, is codified as enacted in South Carolina Act 62:

> If the commission modifies or rejects an electrical utility's integrated resource plan, the electrical utility, within sixty days after the date of the final order, shall submit a revised plan addressing concerns identified by the commission and incorporating commission-mandated revisions to the integrated resource plan to the commission for approval. Within sixty days of the electrical utility's revised filing, the Office of Regulatory Staff shall review the electrical utility's revised plan and submit a report to the commission assessing the sufficiency of the revised filing. Other parties to the integrated resource plan proceeding also may submit

[3] Lockhart Letter filed August 10, 2021 at p. 2 (https://dms.psc.sc.gov/Attachments/Matter/1402229f-758d-424c-aeef-ea2a32153f06).
[4] ORS Letter filed on August 24, 2021 (https://dms.psc.sc.gov/Attachments/Matter/62e8f51a-58c6-4f99-9fe7-5272cdde1195).
[5] S.C. Code Ann. Section 1-23-600 (A)(5) "[] Unless otherwise provided by statute, the standard of proof in a contested case is by a preponderance of the evidence."

> comments. No later than sixty days after the Office of Regulatory Staff report is filed with the commission, the commission at its discretion may determine whether to accept the revised integrated resource plan or to mandate further remedies that the commission deems appropriate.

S.C. Code Ann. Section 58-37-40 (C)(3) (Supp. 2020).

III. ELEMENTS FOR SATISFACTION AND CORRECTION IN LOCKHART MODIFIED 2020 IRP

Commission Order No. 2021-246 required that Lockhart shall modify its 2020 IRP by:

(a) **LOAD AND ENERGY FORECASTING**. Revising Attachments 2 and 3 which were attached to Witness Bryan Stone's prefiled Rebuttal Testimony, for various reasonable scenarios, including the addition of a new large industrial customer as described by Witness Stone in his rebuttal testimony (Tr. p. 33.4, l. 5 — Tr. p, 33.5, 1. 17);

(b) **DEMAND-SIDE, SUPPLY-SIDE, STORAGE AND OTHER TECHNOLOGIES**. Including high-level language regarding how Lockhart evaluates prospective new generation resources (Tr. p. 33.5, l. 18 — p. 33.8, 1. 16);

(c) **SENSITIVITY TO FUEL PRICE FORECASTS AND ENVIRONMENTAL REGULATIONS**. Including a statement that Lockhart's renewable portfolio has negligible fuel costs and environmental risk and that Duke Energy Carolinas LLC's cost and risk, as related to Lockhart, will be evaluated in the context of the next Duke Energy Carolinas, LLC Purchase Power Agreement renewal (Tr. p. 33.10, l. I — p. 33.11, l. 7; Tr. p. 33.11, l. 13— p. 33.12, l. 5);

(d) **EXISTING SYSTEM RESOURCES AND RESOURCE PLANNING**. Revising Attachment 1 to Lockhart's 2020 IRP to reflect that Lockhart does not intend to renew its PPA with Duke for the Wellford Landfill Gas facility but that Lockhart will use that power to directly serve customers. (Tr. p. 33.11, ll. 8-12).

See Commission Order No. 2021-246, pp. 23-24, ¶ 6. The Commission ordered additional changes related to the Company's future updates and subsequent comprehensive IRPs.

Commission Order No. 2021-246, p. 24-25, ¶¶7-8. Each of the above requirements, items (a) through (d), must be addressed in Lockhart's Modified 2020 IRP.

In its Review, ORS evaluated the sufficiency of Lockhart's Modified IRP in meeting the requirements of Order No. 2021-246. *See* Review of Lockhart Power Company's Modified 2020 Integrated Resource Plan, Docket No. 2019-227-E, Pursuant to Order No. 2021-246, dated August 9, 2021. Table 1 lists the four (4) action items required by the Commission and that ORS believes that they have been sufficiently addressed by Lockhart in its Modified 2020 IRP.

Table 1

Action Item	Summary of Requirements in Order No. 2021-246	LPC Modified IRP Section	ORS Sufficiency Report Section	Sufficient? (Y/N)
1	Include various reasonable load forecast scenarios	Attachments 2 & 3	Load and Energy Forecasting	Y
2	Include high-level language regarding evaluation of prospective new generation resources	5. Evaluating Prospective New Generation Resources (Pg. 3)	Demand-Side, Supply-Side, Storage, and Other Technologies	Y
3	Include a statement on Lockhart's fuel cost and environmental risk	8. Fuel Cost and Environmental Risk (Pg. 4)	Sensitivity to Fuel Price Forecasts and Environmental Regulations	Y
4	Revise Attachment 1 regarding renewal of Wellford Landfill Gas PPA	Attachment 1 (Note 6)	Existing System Resources and Resource Planning	Y

Id., p. 4.

IV. FINDINGS OF FACT

After consideration of the Lockhart's Modified 2020 IRP, ORS's Report, and comments from the Joint Intervenors filed in this docket, the Commission hereby makes the following findings of fact concerning the above required items (a) through (d) enumerated above and finds that these action items (a) through (d) are also supported by the evidence in the record as detailed in Order No. 2021-246 as discussed below:

A. Load and Energy Forecasting

In the rebuttal testimony of witness Bryan Stone, Lockhart provided high, base, and low demand and sales forecasts under various scenarios as suggested by ORS and ordered by the Commission to meet the requirements of South Carolina Code Section 58-37-40(B)(1)(a). The base case was revised to include a new large industrial customer that expected to begin production in 2021. Approximately five (5) megawatts (MW) of incremental demand were added to the base case in year 2021 to include demand from a new large industrial customer as required by Order No. 2021-246. The high load case assumes a 5% annual growth rate, and the light load case assumes a 0% annual growth rate beyond 2021. Additionally in its Modified 2020 IRP, Lockhart included the various forecast scenarios as outlined in the rebuttal testimony of witness Bryan Stone to update 2020 IRP Attachments 2 and 3. ORS verified in its report that Lockhart revised Attachments 2 and 3 in its 2020 Modified IRP as directed by the Commission. The Commission finds that these revisions by Lockhart satisfy the respective requirements of Commission Order No. 2020-246 regarding Load and Energy Forecasting.

B. Demand-Side, Supply-Side, Storage, and Other Technologies

The Commission ordered that Lockhart must revise its 2020 IRP to include high-level language regarding Lockhart's evaluation of prospective new resources and technologies to meet the Company's load requirements as well as compare other reasonable options under different load, fuel and risk sensitivities. *See* Order No. 2021-246, Ordering Paragraph 6(b), p. 23. Lockhart presented in its 2020 IRP a single resource plan and did not include or conduct evaluations of various generic resource options that may be available. Section 58-37-40(B)(1)(e) requires an IRP to include:

> **several resource portfolios developed with the purpose of fairly evaluating** the range of demand-side, supply-side, storage, and other technologies and services available to meet the utility's service obligations. Such portfolios and evaluations must include an evaluation of low, medium, and high cases for the adoption of renewable energy and cogeneration, energy efficiency, and demand response measures, including consideration of the following:
>
> i. customer energy efficiency and demand response programs;
>
> ii. facility retirement assumptions; and
>
> iii. sensitivity analyses related to fuel costs, environmental regulations, and other uncertainties or risks
>
> . . .

Section 58-37-40(B)(1)(e) (2021 Supp.) (emphasis added).

Additionally, Section 58-37-40(B)(1)(b) requires that the electric utility include the type, proposed capacity, and cost estimates for each of the generic generation technology considered in its IRP. Lockhart did not include "several resource portfolios" and did not evaluate other resource options as an alternative to its existing supply resources. In Order No. 2021-246, we concluded that "there is value for the electric utility to evaluate alternatives, which is a goal of an IRP."[6]

In its Modified 2020 IRP, Lockhart does evaluate prospective new resources. The Company included a section evaluating prospective generation resources and addressing high-level screening criteria for new generation resource options. Lockhart further provides that it:

> considers the following key areas when evaluating new generation resources: generation type, investment size, timing of implementation, expected life, and technology risk. Lockhart's modest size and limited resources in relation to larger IOU's means that even relatively small investments in new technology could have a disproportionate cost impact

[6] Order No. 2021-246, p. 18.

> on customers, and the company tends to be a technology follower, (with limited but targeted exceptions).

See Lockhart's Modified 2020 Integrated Resource Plan, p. 3, lines 17-22. Lockhart lists "generation type, investment size, timing of implementation, expected life, and technology risk" as several key areas which are considered when it evaluates new resources. However, Lockhart has limited ability to add renewable energy resources as a result of its full-requirements power purchase agreement with Duke Energy Carolinas, LLC, its modest size (small customer base), and limited resources. The Company references in its Modified 2020 IRP that long-standing plans for acquisition of solar resources have been on hold and will be until the price of solar stabilizes to minimize total long-run costs. ORS reviewed the Company's Modified IRP and believed that Lockhart did adhere to the Commission's Order No. 2021-246 with these changes. The Commission finds that these revisions by Lockhart satisfy the respective requirements of Commission Order No. 2020-246 regarding the evaluation of prospective new resources.

C. Sensitivity to Fuel Price Forecasts and Environmental Regulations

Lockhart was ordered to modify its 2020 IRP so as to include a statement that the Company's renewable portfolio has negligible fuel cost sensitivity and environmental risk. Additionally, the Company must include a statement in its modified IRP that the DEC fuel price sensitivities "and risk (as they relate to Lockhart) will be evaluated in the context of the next DEC PPA renewal." *See* Order No. 2021-246, Ordering Paragraph 6(c), p. 23. The Commission considered ORS's Review of Lockhart Power Company's Modified 2020 Integrated Resource Plan Pursuant to Order No. 2021-246 and the Company's Modified 2020 IRP.

In its Modified 2020 IRP, Lockhart revised the "Fuel Cost and Environmental Risk" section to include information about producing 100% of its energy from renewable resources. *See* Modified 2020 IRP, p. 4, line 15-p. 5, line 4. Lockhart stated that:

> [T]his renewable portfolio has negligible fuel cost and environmental risk. The only semblance of a fuel cost is the landfill gas royalty, which is relatively low with long-term price stability. There is also a small quantity of diesel fuel associated with periodically operating emergency backup generators to ensure they remain operable for reliability purposes, but this is a minor expense without material associated fuel cost (or environmental) risk. Typically, the primary environmental risk associated with generation [...] portfolios in today's world is related to fossil fuel or nuclear resources, and not having enough renewables [...]. This is not the case with the company's portfolio, given the 100% renewable generation mentioned above. Any sensitivity related to fuel costs and environmental risk would be associated with the power purchased under the Duke [Energy Carolinas, LLC] PPA, and would be reflected in the rates charged to Lockhart by Duke Energy under the PPA. Examples would include liabilities associated with Duke [Energy Carolinas, LLC]'s legacy coal ash and spent nuclear fuel. Duke [Energy Carolinas, LLC]'s fuel costs and environmental risks as they relate to Lockhart will be evaluated in the context of the next Duke [Energy Carolinas, LLC] PPA renewal, and the then-current Duke [Energy Carolinas, LLC] IRP.

Id. With these revisions, the Commission finds that Lockhart did provide and include statements about its renewable portfolio and related fuel cost and environmental risk which are sufficient and do comply with the requirements ordered in Commission Order No. 2021-246.

D. Existing System Resources and Resource Planning

Lastly, the Commission ordered Lockhart to "modify its 2020 IRP by revising Attachment I to its filed 2020 IRP to reflect that Lockhart does not intend to renew its

Power Purchase Agreement (PPA) with Duke for the Wellford Landfill Gas facility [when it expires at the end of 2020], but that Lockhart instead will use that power to directly serve customers." Order No. 2021-246, p. 18. In its Modified 2020 IRP, Lockhart noted in Attachment 1 to its IRP that the Company had terminated its power purchase agreement on December 31, 2020 related to the Wellford Landfill Gas Facility as follows:

> **Note 6:** Lockhart terminated its PPA with Duke for the Wellford Landfill Gas facility on 12-31-20 and will use that power to directly serve Lockhart's customers going forward.

Lockhart's Modified 2020 IRP, Attachment 1, p. 2. The Commission finds the clarification related to the Wellford Landfill Gas Facility and redirection of power for direct use by Lockhart's customers does satisfy the requirements of Commission Order No. 2021-246 concerning this item.

V. CONCLUSIONS OF LAW

Under the statutory provisions of Act 62, this Commission formerly rejected and required modification of Lockhart's 2020 IRP in Order No. 2021-246. In the current matter of addressing Lockhart's Modified 2020 IRP, S.C. Code Ann. Section 58-37-40 (C)(3) states: "the commission at its discretion may determine whether to accept the revised integrated resource plan or to mandate further remedies that the commission deems appropriate." The Commission has considered ORS's Review of Lockhart Power Company's Modified 2020 Integrated Resource Plan Pursuant to Order No. 2021-246 and the Company's Modified 2020 IRP. The Commission, in consideration of all of its Findings, concludes that Lockhart's Modified 2020 IRP addresses all statutory

requirements and all deficiencies identified by this Commission for purposes of this proceeding. The Modified 2020 IRP is therefore approved.

The statutory provisions of S.C. Code Ann. Section 58-37-40 (C)(2) state: "The commission shall approve an electrical utility's integrated resource plan if the commission determines that the proposed integrated resource plan represents the most reasonable and prudent means of meeting the electrical utility's energy and capacity needs as of the time the plan is reviewed."

In addition to the conclusions explained and stated previously herein, the Commission further concludes that the Modified 2020 IRP represents the most reasonable and prudent means of meeting the electrical utility's energy and capacity needs as of the time the plan is reviewed. The Commission is expressly making these findings pursuant to South Carolina Code Section 58-37-40(C)(4), and such findings shall not be determinative of the reasonableness or prudence of the acquisition, replacement, or construction of any new resources, or the making of any expenditure, by Lockhart.

While the conclusions of this Commission determine that Lockhart has satisfied the statutory requirements and addressed deficiencies for this proceeding with its Modified 2020 IRP, the Commission would emphatically state that there is opportunity and expectation for future improvements in later-arriving IRP Updates and IRPs, as ordered both herein and in Order No. 2021-246.

VI. ORDERING PROVISIONS

IT IS THEREFORE ORDERED:

1. The Modified 2020 Integrated Resource Plan of Lockhart Power Company is approved. A copy is attached as Order Exhibit No. 1.

2. All aspects of Order No. 2021-246, not inconsistent with this Order, are still in effect.

3. Pursuant to South Carolina Code Section 58-37-40(C)(4), the Commission's findings, conclusions, and Order in this docket shall not be determinative of the reasonableness or prudence of the acquisition, replacement, or construction of any new resources, or the making of any expenditure, by Lockhart.

4. This Order shall remain in full force and effect until further Order of this Commission.

BY ORDER OF THE COMMISSION:

Justin T. Williams, Chairman
Public Service Commission of
South Carolina

LOCKHART POWER COMPANY

INTEGRATED RESOURCE PLAN

Modified in June 2021 per SC PSC Order 2021-246

1. STATEMENT OF OBJECTIVE

Lockhart Power Company's (LPC) objective in developing an Integrated Resource Plan (IRP) is to minimize our long run total costs and produce the least cost to our customers consistent with the availability of an adequate and reliable supply of electric energy while maintaining system flexibility and considering environmental impacts. We intend for the plan to also improve customer service, offer additional customer options, and improve efficiencies of energy usage.

2. RELEVANT SUPPORTING DOCUMENTATION

a. See ATTACHMENTS

1 --- SUPPLY RESOURCES

2 --- DEMAND FORECAST

3 --- SUPPLY AND SALES FORECAST

4 --- ENERGY PRODUCED FROM ALL ENERGY RESOURCES

5--- PLANNED ELETRICAL TRANSMISSION INVESTMENTS

3. SUPPLY RESOURCES

LPC presently utilizes ten sources of supply, including nine generation stations and purchases from Duke Energy (See Attachment 1). More than 99% of the power LPC self-generates is renewable energy. LPC utilizes a firm wholesale PPA with Duke Energy to

provide its generation needs beyond the amount it self-generates. LPC generates approximately one-quarter of its own load with renewable energy with the remainder purchased from Duke Energy (See Attachment 4). Duke Energy's rates to LPC are presumptively just and reasonable, having been permitted by the FERC. We plan to continue to use Duke Energy to provide a firm load-following supply for the foreseeable future. However, LPC intends to investigate other sources to determine if the costs and benefits, both short run and long run, meet the objectives of our IRP. The sources we intend to investigate include, but are not limited to the following:

GENERATION --- Additional cost effective renewable energy generation resources; cost effective natural gas generation resources.

4. VARIOUS ENERGY AND DEMAND ALTERNATIVES, EFFICIENT ENERGY CHOICES AND PROPER PRICING SIGNALS

LPC has done and continues to do the following:

A. Designed its rates to economically encourage improved load factors and to reduce monthly demands by:

1. Incorporating a demand penalty by use of a demand ratchet in its residential rates. This encourages peak shaving.

2. Dividing its commercial and industrial rates into a first 200 hours use of billing demand rate and an over 200 hours use of billing demand rate with the rates in the latter considerably less expensive than the first 200 hours use block. This encourages peak shaving.

3. Incorporating conservation requirements in its Residential - All Electric and General Service - All Electric rates. This encourages conservation.

4. Designing its Residential and Residential - All Electric rates such that they are identical during the summer months, the season of LPC's system peak. This encourages peak shaving and conservation.

5. Designing its General Service Commercial and General Service - All Electric rates such that they are identical during the summer months, the season of LPC's system peak. This encourages peak shaving and conservation.

6. Converting its Residential rate and Residential - All -Electric rate (summer months) from a declining block rate to an inverted rate. This encourages conservation.

7. Designing a Solar rider for its residential customers

5. EVALUATING PROSPECTIVE NEW GENERATON RESOURCES

Due to the full requirements nature of the Duke PPA, there is limited ability to add renewable energy resources, so the company chooses its generation projects carefully. Lockhart considers the following key areas when evaluating new generation resources: generation type, investment size, timing of implementation, expected life, and technology risk. Lockhart's modest size and limited resources in relation to larger IOU's means that even relatively small investments in new technology could have a disproportionate cost impact on customers, and the company tends to be a technology follower, (with limited but targeted exceptions). One example is solar, which has been on the company's radar for some time but not yet incorporated as a resource due to continued price reductions. Because of its small customer base, the company has waited for price stabilization to get the best long term "deal" to minimize total long run costs.

6. EVALUATING THE COST EFFECTIVENESS OF SUPPLY-SIDE AND DEMAND SIDE OPTIONS

LPC has adopted an interruptible service demand-side management program offered by Duke Energy. Currently approximately one-fourth of LPC's industrial customers are enrolled in the program. This program encourages peak shaving.

7. MEASURE OF NET BENEFITS

LPC will provide the net benefits resulting from the options chosen for use, keeping within the objective stated in Section 1. Benefits are considered to be, but are not limited to, cost savings, peak load shaving, conservation, load shifting, valley filling, environmental concerns, improvement of customer service, offering of additional customer options, improved efficiencies of energy usage, and improved outage times and reliability, and economic development impact on the community.

8. FUEL COST AND ENVIRONMENTAL RISK

A distinguishing feature of Lockhart's generation is that 100% of the energy produced is derived from renewable resources.. This renewable portfolio has negligible fuel cost and environmental risk. The only semblance of a fuel cost is the landfill gas royalty, which is relatively low with long-term price stability. There is also a small quantity of diesel fuel associated with periodically operating emergency backup generators to ensure they remain operable for reliability purposes, but this is a minor expense without material associated fuel cost (or environmental) risk. Typically, the primary environmental risk associated with generation iportfolios in today's world is related to fossil fuel or nuclear resources, and not having enough renewables, . This is not the case with the company's portfolio, given the 100% renewable generation mentioned above. Any sensitivity related to fuel costs and environmental risk would be associated with the power purchased under the Duke PPA, and would be reflected in the rates charged to Lockhart

by Duke Energy under the PPA. Examples would include liabilities associated with Duke's legacy coal ash and spent nuclear fuel. Duke's fuel costs and environmental risks as they relate to Lockhart will be evaluated in the context of the next Duke PPA renewal, and the then-current Duke IRP.

9. DEMAND AND ENERGY FORECAST

See Attachments 2 and 3

10. EVALUATION AND REVIEW OF EXISTING DEMAND-SIDE OPTIONS

See Section 4 Above

11. FUTURE STUDIES

LPC continues to evaluate potential renewable energy initiatives and other potential supply-side opportunities. In particular, as the cost of solar generation equipment continues to drop, potential opportunities to cost-effectively provide smaller utility-scale solar power for our coustomers will continue to be studied.

12. FLEXIBILITY AND QUICK RESPONSE

LPC intends to remain flexible enough to react quickly to changes in a manner consistent with minimizing costs while maintaining reliability.

13. PLANNED ELECTRICAL TRANSMISSION INVESTMENTS

LPC is committed to maintenance and improvement of the tranmission system by making investments in short and long term capital budgeted projects as seen in ATTACHMENT 5.

14. THIRD PARTY POWER PURCHASES

LPC will investigate other purchase sources if the occasion arises and is willing to pursue any other purchase sources to determine if the costs and benefits, both short run and long run, provide our customers with the options consistent with our IRP objective.

15. NEW TECHNOLOGIES

LPC will continuously evaluate, pursuant to its IRP objective, new technology for both demand-side and supply-side options. In addition to advances in solar generation technology, Lockhart Power Company keeps up-to-date on advances in hydrokinetic and similar technologies that could one day be cost effectively deployed in existing water conveyances.

16. FUTURE SUPPLY-SIDE OPTIONS

LPC presently has no certain scheduled supply side options other than those described in Section 3. LPC is monitoring development of the solar generation market in South Carolina, including proposed legislative changes, and will respond to any changes in a manner that is cost effective and appropriate for its customers.

17. CAPTURING LOST OPPORTUNITY RESOURCES

LPC gives attention to capturing lost-opportunity resources which include cost-effective energy efficiency savings such as in new construction, renovation, and in routine replacement of existing equipment. In routine replacement of any and all equipment, LPC includes energy and efficiency savings as a component of evaluation.

18. DYNAMICS OF IRP PROCESS

LPC realizes that the IRP process is dynamic and that modifications may be necessary over time. As new issues arise, existing issues or components of the plan change in significance and improved analysis techniques developed; LPC intends to file revisions to

its IRP with The Public Service Commission of South Carolina and request that the Commission incorporate the revision into LPC's IRP or approve it as a separate consideration.

Attachment 1

Supply Resources

Facility Name	Location	Age	License/ Permit Expiration	Nameplate Capacity	MWH/Year	Fuel Source
Lockhart Hydro	Lockhart, SC	1920	2039	18 MW	70,000	Water (Non-Consumptive)
Lower Pacolet Hydro[1]	Pacolet, SC	1938	2051	0.8 MW	4,000	Water (Non-Consumptive)
Pacolet Diesel[3,4]	Pacolet, SC	2006	N/A	6 MW	N/A	Diesel
Union Diesel[3,4]	Union, SC	2005	N/A	8 MW	N/A	Diesel
Wellford Renewable Energy Facility[4,6]	Wellford, SC	2011	N/A	1.6 MW	10,000	Landfill Gas
Upper Pacolet Hydro[1]	Pacolet, SC	2013	2052	1.1 MW	5,000	Water (Non-Consumptive)
Lockhart Minimum Flow Hydro[1]	Lockhart, SC	2012	2039	0.8 MW	5,000	Water (Non-Consumptive)
Purchases from Duke Energy (Firm)	N/A	N/A	N/A	Load Following	Load Following	Various
Lockhart Bio-Energy, LLC Union Renewable Energy Facility[1,4,5]	Union, SC	2015	N/A	3.2 MW	18,000	Landfill Gas
Buzzard Roost Hydro (As of 6-1-20)[5]	Greenwood, SC	1935	2035	15 MW	30,000	Water (Non-Consumptive)

Note 1: Power generated from these facilities is currently sold off-system under contracts. Revenues from the facilities in rate base flow to Lockhart Power's customers. As those contracts expire, Lockhart Power will determine whether to seek renewal or replacement of the contracts or use the output for its own generation needs.

Note 2: Expected life of all generation facilities exceeds the IRP forecast horizon.

Note 3: Diesel facilities do not normally operate. They are available at Duke Energy's request only during NERC Level II emergency conditions.

Note 4: Diesel and Landfill Gas facilities have operating permits that do not have a pre-determined expiration date.

Note 5: Facility is not in rate base, as it was added since last rate case.

Note 6: Lockhart terminated its PPA with Duke for the Wellford Landfill Gas facility on 12-31-20 and will use that power to directly serve Lockhart's customers going forward.

DOCKET NO 2019-227-E & 2020-11-E
ORDER NO 94-348 & 98-502

LOCKHART POWER COMPANY
Base Load Case

SUMMER DEMAND FORECAST

SYSTEM SUMMER PEAK DEMAND IN MW'S	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
SYSTEM PEAK DEMAND	67 4	73.4	74 1	74.9	75 6	76 4	77 1	77 9	78 7	79 5	80.3	81 1	81 9	82.7	83 5
DEMAND SOURCES	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
LOCKHART HYDRO GENERATION	16 5	16.5	16 5	16 5	16 5	16 5	16.5	16 5	16.5	16.5	16 5	16.5	16.5	16.5	16 5
PACOLET DIESEL GENERATION	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
UNION DIESEL GENERATION	7 3	7.3	7.3	7.3	7 3	7.3	7 3	7.3	7.3	7.3	7 3	7 3	7.3	7.3	7.3
PURCHASES FROM DUKE ENERGY	37.6	43.6	44.3	45 1	45.8	46.6	47.3	48.1	48 9	49 7	50.5	51.3	52.1	52.9	53.7
TOTAL DEMAND SOURCES	67.4	73 4	74.1	74 9	75.6	76 4	77.1	77.9	78.7	79.5	80.3	81 1	81 9	82.7	83.5

WINTER DEMAND FORECAST

SYSTEM WINTER PEAK DEMAND IN MW'S	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
SYSTEM PEAK DEMAND	62.6	68 6	69.3	70.0	70 7	71.4	72.1	72.8	73 5	74.3	75 0	75 8	76 5	77 3	78.1
DEMAND SOURCES	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
LOCKHART HYDRO GENERATION	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16 5	16.5	16.5	16 5	16 5	16.5	16.5	16 5
PACOLET DIESEL GENERATION	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
UNION DIESEL GENERATION	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7 3	7.3	7.3	7.3	7.3	7 3	7.3	7.3
PURCHASES FROM DUKE ENERGY	32 8	38 8	39.5	40.2	40 9	41.6	42.3	43 0	43.7	44 5	45 2	46 0	46 7	47 5	48 3
TOTAL DEMAND SOURCES	62.6	68.6	69 3	70 0	70.7	71.4	72.1	72 8	73 5	74.3	75 0	75 8	76.5	77.3	78.1

Note: LPC generation resources that provide off-system sales per long-term contracts are excluded

ATTACHMENT 2

DOCKET NO. 2019-227-E & 2020-11-E
ORDER NO. 94-348 & 98-502

LOCKHART POWER COMPANY
High Load Case

SUMMER DEMAND FORECAST

SYSTEM SUMMER PEAK DEMAND IN MW'S	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
SYSTEM PEAK DEMAND	67.4	73.4	77.1	80.9	85.0	89.2	93.7	98.4	103.3	108.4	113.9	119.6	125.5	131.8	138.4

DEMAND SOURCES	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
LOCKHART HYDRO GENERATION	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5
PACOLET DIESEL GENERATION	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
UNION DIESEL GENERATION	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3
PURCHASES FROM DUKE ENERGY	37.6	43.6	47.3	51.1	55.2	59.4	63.9	68.6	73.5	78.6	84.1	89.8	95.7	102.0	108.6
TOTAL DEMAND SOURCES	67.4	73.4	77.1	80.9	85.0	89.2	93.7	98.4	103.3	108.4	113.9	119.6	125.5	131.8	138.4

WINTER DEMAND FORECAST

SYSTEM WINTER PEAK DEMAND IN MW'S	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
SYSTEM PEAK DEMAND	62.6	68.6	72.0	75.6	79.4	83.4	87.6	91.9	96.5	101.4	106.4	111.7	117.3	123.2	129.4

DEMAND SOURCES	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
LOCKHART HYDRO GENERATION	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5
PACOLET DIESEL GENERATION	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
UNION DIESEL GENERATION	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3
PURCHASES FROM DUKE ENERGY	32.8	38.8	42.2	45.8	49.6	53.6	57.8	62.1	66.7	71.6	76.6	81.9	87.5	93.4	99.6
TOTAL DEMAND SOURCES	62.6	68.6	72.0	75.6	79.4	83.4	87.6	91.9	96.5	101.4	106.4	111.7	117.3	123.2	129.4

Note: LPC generation resources that provide off-system sales per long-term contracts are excluded.

ATTACHMENT 2

DOCKET NO. 2019-227-E & 2020-11-E
ORDER NO. 94-348 & 98-502

LOCKHART POWER COMPANY
Light Load Case

SUMMER DEMAND FORECAST

SYSTEM SUMMER PEAK DEMAND IN MW'S	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
SYSTEM PEAK DEMAND	67.4	72.2	72.2	72.2	72.2	72.2	72.2	72.2	72.2	72.2	72.2	72.2	72.2	72.2	72.2

DEMAND SOURCES	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
LOCKHART HYDRO GENERATION	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5
PACOLET DIESEL GENERATION	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
UNION DIESEL GENERATION	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3
PURCHASES FROM DUKE ENERGY	37.6	42.4	42.4	42.4	42.4	42.4	42.4	42.4	42.4	42.4	42.4	42.4	42.4	42.4	42.4
TOTAL DEMAND SOURCES	67.4	72.2	72.2	72.2	72.2	72.2	72.2	72.2	72.2	72.2	72.2	72.2	72.2	72.2	72.2

WINTER DEMAND FORECAST

SYSTEM WINTER PEAK DEMAND IN MW'S	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
SYSTEM PEAK DEMAND	62.6	67.4	67.4	67.4	67.4	67.4	67.4	67.4	67.4	67.4	67.4	67.4	67.4	67.4	67.4

DEMAND SOURCES	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
LOCKHART HYDRO GENERATION	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5
PACOLET DIESEL GENERATION	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
UNION DIESEL GENERATION	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3
PURCHASES FROM DUKE ENERGY	32.8	37.6	37.6	37.6	37.6	37.6	37.6	37.6	37.6	37.6	37.6	37.6	37.6	37.6	37.6
TOTAL DEMAND SOURCES	62.6	67.4	67.4	67.4	67.4	67.4	67.4	67.4	67.4	67.4	67.4	67.4	67.4	67.4	67.4

Note: LPC generation resources that provide off-system sales per long-term contracts are excluded.

ATTACHMENT 2

Docket NO 2019-227-E & 2020-11-E
Order NO 94-348 & 98-502

LOCKHART POWER COMPANY
Base Load Case
SUPPLY AND SALES FORECAST (MWH)

	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
System Requirements															
Metered Sales	339,277	370,813	374,521	378,266	382,049	385,869	389,728	393,625	397,562	401,537	405,553	409,608	413,704	417,841	422,020
Company Use	852	852	852	852	852	852	852	852	852	852	852	852	852	852	852
Losses	19,165	20,947	20,947	20,947	20,947	20,947	20,947	20,947	20,947	20,947	20,947	20,947	20,947	20,947	20,947
Required System Input	359,294	392,612	396,320	400,066	403,848	407,669	411,528	415,425	419,361	423,337	427,352	431,408	435,504	439,641	443,819

	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Supply Sources															
Lockhart Hydro Generation	76,121	76,121	76,121	76,121	76,121	76,121	76,121	76,121	76,121	76,121	76,121	76,121	76,121	76,121	76,121
Pacolet Diesel Generation	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23
Union Diesel Generation	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32
Purchases from Duke	283,118	316,436	320,144	323,890	327,672	331,493	335,352	339,249	343,185	347,161	351,176	355,232	359,328	363,465	367,643
Total Supply	359,294	392,612	396,320	400,066	403,848	407,669	411,528	415,425	419,361	423,337	427,352	431,408	435,504	439,641	443,819

Note: Under the current Duke Energy PPA, the Pacolet and Union Diesel Generation stations are only operated in emergency situations.

ATTACHMENT 3

Docket NO. 2019-227-E & 2020-11-E
Order NO. 94-348 & 98-502

LOCKHART POWER COMPANY
High Load Case

SUPPLY AND SALES FORECAST (MWH)

	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
System Requirements															
Metered Sales	339,277	370,813	389,354	408,821	429,262	450,726	473,262	496,925	521,771	547,860	575,253	604,015	634,216	665,927	699,223
Company Use	852	852	852	852	852	852	852	852	852	852	852	852	852	852	852
Losses	19,165	20,947	21,995	23,094	24,249	25,462	26,735	28,071	29,475	30,949	32,496	34,121	35,827	37,618	39,499
Required System Input	359,294	392,612	412,200	432,768	454,364	477,039	500,849	525,848	552,098	579,660	608,601	638,988	670,895	704,397	739,575

	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Supply Sources															
Lockhart Hydro Generation	76,121	76,121	76,121	76,121	76,121	76,121	76,121	76,121	76,121	76,121	76,121	76,121	76,121	76,121	76,121
Pacolet Diesel Generation	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23
Union Diesel Generation	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32
Purchases from Duke	283,118	316,436	336,024	356,592	378,188	400,863	424,673	449,672	475,922	503,484	532,425	562,812	594,719	628,221	663,399
Total Supply	359,294	392,612	412,200	432,768	454,364	477,039	500,849	525,848	552,098	579,660	608,601	638,988	670,895	704,397	739,575

Note: Under the current Duke Energy PPA, the Pacolet and Union Diesel Generation stations are only operated in emergency situations.

ATTACHMENT 3

Docket NO. 2019-227-E & 2020-11-E
Order NO. 94-348 & 98-502

LOCKHART POWER COMPANY
Light Load Case

SUPPLY AND SALES FORECAST (MWH)

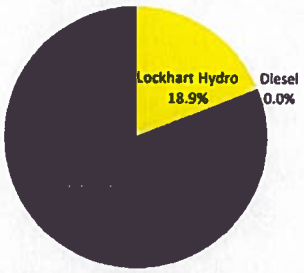
	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
System Requirements															
Metered Sales	339,277	364,506	364,506	364,506	364,506	364,506	364,506	364,506	364,506	364,506	364,506	364,506	364,506	364,506	364,506
Company Use	852	852	852	852	852	852	852	852	852	852	852	852	852	852	852
Losses	19,165	20,583	20,583	20,583	20,583	20,583	20,583	20,583	20,583	20,583	20,583	20,583	20,583	20,583	20,583
Required System Input	359,294	385,941	385,941	385,941	385,941	385,941	385,941	385,941	385,941	385,941	385,941	385,941	385,941	385,941	385,941

	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Supply Sources															
Lockhart Hydro Generation	76,121	76,121	76,121	76,121	76,121	76,121	76,121	76,121	76,121	76,121	76,121	76,121	76,121	76,121	76,121
Pacolet Diesel Generation	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23
Union Diesel Generation	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32
Purchases from Duke	283,118	309,765	309,765	309,765	309,765	309,765	309,765	309,765	309,765	309,765	309,765	309,765	309,765	309,765	309,765
Total Supply	359,294	385,941	385,941	385,941	385,941	385,941	385,941	385,941	385,941	385,941	385,941	385,941	385,941	385,941	385,941

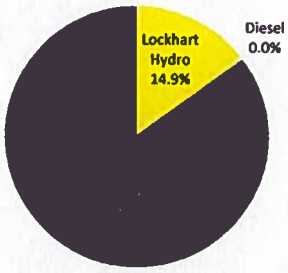
Note: Under the current Duke Energy PPA, the Pacolet and Union Diesel Generation stations are only operated in emergency situations.

ATTACHMENT 3

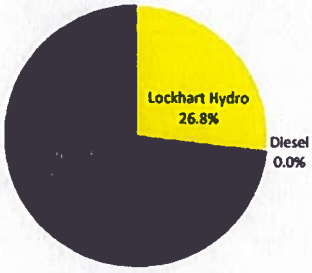
LOCKHART POWER COMPANY
ENERGY SOURCES IN PERCENT OF MWH'S INPUT



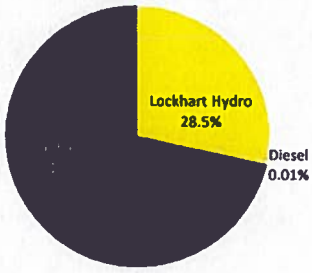
2016



2017



2018



2019

Note: Purchased Power obtained from Duke Energy

ATTACHMENT 4

ATTACHMENT 5

Electrical Transmission Investments Planned

- Replace 34 kV Transmission Line Fault Indicator System
- Replace 34 kV Transmission Breaker at Duke–Lockhart Tie Station
- Replace 100 kV Transformer at Duke-Lockhart Tie Station